

## SEQUENCE LISTING

<110> Northwest Biotherapeutics, -Inc. <120> METHODS FOR THE DIAGNOSIS AND TREATMENT OF METASTATIC PROSTATE TUMORS <130> 8511-025-228 <140> PCT/US99/08079 <141> 1999-04-13 <160> 16 <170> PatentIn Ver. 2.0 <210> 1 <211> 4450 <212> DNA <213> Homo sapiens <220> <221> CDS <222> (22) . . (3915) <400> 1 acccacgogo agoggoogga g atg cag ogg ggo goo gog otg tgo otg oga 51 Met Gln Arg Gly Ala Ala Leu Cys Leu Arg ctg tgg ctc tgc ctg gga ctc ctg gac ggc ctg gtg agt gac tac tcc Leu Trp Leu Cys Leu Gly Leu Leu Asp Gly Leu Val Ser Asp Tyr Ser 20 atg acc ccc ccg acc ttg aac atc acg gag gag tca cac gtc atc gac Met Thr Pro Pro Thr Leu Asn Ile Thr Glu Glu Ser His Val Ile Asp 30 acc ggt gac agc ctg tcc atc tcc tgc agg gga cag cac ccc ctc gag 195 Thr Gly Asp Ser Leu Ser Ile Ser Cys Arg Gly Gln His Pro Leu Glu 45 tgg gct tgg cca gga gct cag gag gcg cca gcc acc gga gac aag gac 243 Trp Ala Trp Pro Gly Ala Gln Glu Ala Pro Ala Thr Gly Asp Lys Asp 60 age gag gac acg ggg gtg gtg cga gac tgc gag ggc aca gac gcc agg 291 Ser Glu Asp Thr Gly Val Val Arg Asp Cys Glu Gly Thr Asp Ala Arg 75 ccc tac tgc aag gtg ttg ctg ctg cac gag gta cat gcc aac gac aca 339 Pro Tyr Cys Lys Val Leu Leu His Glu Val His Ala Asn Asp Thr 100

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Gly Ser Tyr Val Cys Tyr Tyr Lys Tyr Ile Lys Ala Arg Ile Glu Gly

115

110

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387

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acc acg	acc	acc.	æqc	tcc	tac	ata	ttc	ata	aga	gac	ttt	gag	cag	cca	435		
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tgg gtg Trp Val	g ccc Pro	tgt Cys	ctg Leu	gtg Val 160	tcc Ser	atc Ile	ccc Pro	ggc Gly	ctc Leu 165	aat Asn	gtc Val	acg Thr	ctg Leu	cgc Arg 170	531		
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gac cgg Asp Arg	g Arg														627		
tac cto															675		
Pro Phe	Leu														723		•
ttg ccc Leu Pro 235															771		
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gac tac Asp Tyr	Pro		Lys			Glu	Arg	Gly	Lys		Val		Glu		867	•	
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aac gtc Asn Val	Ser														963		
ggc ato Gly Ile 315			Phe												1011		
ccc tto Pro Phe		Ser													1059		

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	gga Gly															1107	~ <b>4</b> ·	
	ccc Pro															1155	-	
	agt Ser 380															1203		
	acc Thr															1251		
	atc Ile															1299		
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	cgg Arg															1491		
	gtg Val															1539		
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ggc	cag	ccg	gtg	ctc	ctg	agc	tgc	caa	gcc	gac	agc	tac	aag	tac	gag	1779		

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Gly	Gln	Pro		Leu 575	Leu	Ser	Cys	Gln	Ala 580	Asp	Ser	Tyr	Lys	Tyr 585	Glu		~~
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						atc Ile 785										2403	
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Gln Cys Glu	tac ctg tcc t Tyr Leu Ser T 830	ac gat gcc agc Yr Asp Ala Ser 835	cag tgg gaa ttc Gln Trp Glu Phe 840	ccc cga 2547 Pro Arg	
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Leu Asn Val			acc aag ccg cag Thr Lys Pro Gln 920		
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			ctc ttc gcg cgg Leu Phe Ala Arg		
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Asp Leu Trp 1 1005	Leu Ser Pro L	eu Thr Met Glu 1010	gat ctt gtc tgc Asp Leu Val Cys 1015	Tyr Ser	
		et Glu Phe Leu	gct tcc cga aag Ala Ser Arg Lys 1030		

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cac aga gac ctg gct gct	cgg aac att ctg ctg	tcg gaa agc gac gtg	3171
His Arg Asp Leu Ala Ala	Arg Asn fle Leu Leu	Ser Glu Ser Asp Val	
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Ile	Ser 50	Cys	Arg	Gly	Gln	His 55	Pro	Leu	Glu	Trp	Ala 60	Trp	Pro	Gly	Ala		
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Val	_	7	C++-	~1	~ 3 .	-1	3	7 T -	Λ~~	D	<b></b>	<b>~</b>	T	1703	Lou		
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Tyr	Val 130	Phe	Val	Arg	Asp	Phe 135	Glu	Gln	Pro	Phe	Ile 140	Asn	Lys	Pro	Asp
Thr 145	Leu	Leu	Val	Asn	Arg 150		Asp	Ala	Met	Trp 155	Val	Pro	Cys	Leu	Va]
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Thr	Trp 210	Gly	Asp	Gln	Asp	Phe 215	Leu	Ser	Asn	Pro	Phe 220	Leu	Val	His	Ile
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Leu	Trn	Asn	Ser	Ala	Ala	Glv	Len	Ara	Ara	Acn	Tla	Car	Len	G111	T 011

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- Ser Ile Tyr Ser Arg His Ser Arg Gln Ala Leu Thr Cys Thr Ala Tyr 435 440 445
- Gly Val Pro Leu Pro Leu Ser Ile Gln Trp His Trp Arg Pro Trp Thr 450 455 460
- Pro Cys Lys Met Phe Ala Gln Arg Ser Leu Arg Arg Arg Gln Gln Gln 465 470 475 480
- Asp Leu Met Pro Gln Cys Arg Asp Trp Arg Ala Val Thr Thr Gln Asp
  485 490 495
- Ala Val Asn Pro Ile Glu Ser Leu Asp Thr Trp Thr Glu Phe Val Glu 500 505 510
- Gly Lys Asn Lys Thr Val Ser Lys Leu Val Ile Gln Asn Ala Asn Val 515 520 525
- Ser Ala Met Tyr Lys Cys Val Val Ser Asn Lys Val Gly Gln Asp Glu 530 535 540
- Arg Leu Ile Tyr Phe Tyr Val Thr Thr Ile Pro Asp Gly Phe Thr Ile 545 550 555 560
- Glu Ser Lys Pro Ser Glu Glu Leu Leu Glu Gly Gln Pro Val Leu Leu 565 570 575
- Ser Cys Gln Ala Asp Ser Tyr Lys Tyr Glu His Leu Arg Trp Tyr Arg
  580 585 590
- Leu Asn Leu Ser Thr Leu His Asp Ala His Gly Asn Pro Leu Leu 595 600 605
- Asp Cys Lys Asn Val His Leu Phe Ala Thr Pro Leu Ala Ala Ser Leu 610 620
- Glu Glu Val Ala Pro Gly Ala Arg His Ala Thr Leu Ser Leu Ser Ile 625 630 635 640
- Pro Arg Val Ala Pro Glu His Glu Gly His Tyr Val Cys Glu Val Gln 645 650 655
- Asp Arg Arg Ser His Asp Lys His Cys His Lys Lys Tyr Leu Ser Val
- Gln Ala Leu Glu Ala Pro Arg Leu Thr Gln Asn Leu Thr Asp Leu Leu 675 680 685
- Val Asn Val Ser Asp Ser Leu Glu Met Gln Cys Leu Val Ala Gly Ala 690 695 700
- His Ala Pro Ser Ile Val Trp Tyr Lys Asp Glu Arg Leu Leu Glu Glu 705 710 715 720

- Lys Ser Gly Val Asp Leu Ala Asp Ser Asn Gln Lys Leu Ser Ile Gln 725 730 735
- Arg Val Arg Glu Glu Asp Ala Gly Pro Tyr Leu Cys Ser Val Cys Arg
  740 745 750
- Pro Lys Gly Cys Val Asn Ser Ser Ala Ser Val Ala Val Glu Gly Ser 755 760 765
- Glu Asp Lys Gly Ser Met Glu Ile Val Ile Leu Val Gly Thr Gly Val 770 780
- Ile Ala Val Phe Phe Trp Val Leu Leu Leu Leu Ile Phe Cys Asn Met 785 790 795 800
- Arg Arg Pro Ala His Ala Asp Ile Lys Thr Gly Tyr Leu Ser Ile Ile 805 810 815
- Met Asp Pro Gly Glu Val Pro Leu Glu Glu Gln Cys Glu Tyr Leu Ser 820 825 830
- Tyr Asp Ala Ser Gln Trp Glu Phe Pro Arg Glu Arg Leu His Leu Gly 835 840 845
- Arg Val Leu Gly Tyr Gly Ala Phe Gly Lys Val Val Glu Ala Ser Ala 850 855 860
- Phe Gly Ile His Lys Gly Ser Ser Cys Asp Thr Val Ala Val Lys Met 865 870 875 880
- Leu Lys Glu Gly Ala Thr Ala Ser Glu Gln Arg Ala Leu Met Ser Glu 885 890 895
- Leu Lys Ile Leu Ile His Ile Gly Asn His Leu Asn Val Val Asn Leu 900 905 910
- Leu Gly Ala Cys Thr Lys Pro Gln Gly Pro Leu Met Val Ile Val Glu 915 920 925
- Phe Cys Lys Tyr Gly Asn Leu Ser Asn Phe Leu Arg Ala Lys Arg Asp 930 935 940
- Ala Phe Ser Pro Cys Ala Glu Lys Ser Pro Glu Gln Arg Gly Arg Phe 945 950 955 960
- Arg Ala Met Val Glu Leu Ala Arg Leu Asp Arg Arg Pro Gly Ser 965 970 975
- Ser Asp Arg Val Leu Phe Ala Arg Phe Ser Lys Thr Glu Gly Gly Ala 980 985 990
- Arg Arg Ala Ser Pro Asp Gln Glu Ala Glu Asp Leu Trp Leu Ser Pro 995 1000 1005
- Leu Thr Met Glu Asp Leu Val Cys Tyr Ser Phe Gln Val Ala Arg Gly
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Met Glu Phe Leu Ala Ser Arg Lys Cys Ile His Arg Asp Leu Ala Ala 025 - 1035 - 1040

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Trp Glu Ile Phe Ser Leu Gly Ala Ser Pro Tyr Pro Gly Val Gln Ile 105 1110 1115 1120

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Phe Arg

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